1:Williams E,G-5 (1923-1925) 1930
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227 blocks the stream except where one or more of these traps allows the current to flow through. The *sirava* is set with its mouth facing upstream and the orifice at (*y*) is stoppered with leaves. The fish entering at (*x*) is unable to make its way out again, and in due course the net is taken up and emptied at (*y*). There is no kind of bait save perhaps a

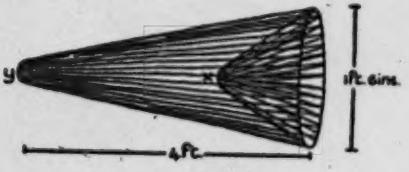

FIG. 11. Fish Net, *Sirava*.

magical one concealed in the bunch of leaves which acts as stopper. These traps are made by men and used by either men or women. They are constructed neatly and well, and their strength is attested by the tale of the over-confident man who chaffed his brother-in-law as he was engaged in making one. Declaring it was a poor job which a fish of any size would break in a moment he foolishly accepted a good-humoured challenge to break it himself. But having by some means insinuated himself through the hole at (*x*) when the trap was already set in the water he found it impossible to carry out his boast, and so the owner was afforded the triumph (particularly embarrassing to an Orokaiva) of catching and drowning his brother-in-law.

I have heard at Wasida of a stationary trap constructed on a different principle, viz. a conical frame lined with thorns; but never in the course of my stay in the Northern Division have I see one.[1]

226 A simple contrivance is employed for catching eels. In the South-East season many of the inland streams fall low, the water is clear and the large eels (*obiti*) harbour in the

[1] Mr. Leo Austen, Assistant Resident Magistrate at Buna, has made special inquiries upon this subject and sends me the following verification: 'I have searched through the various tribes of the Northern Division and find there is no such thing as a fish-trap with thorns or spikes on which the fish become impaled.' If the thorn-lined trap is found at all in the division one ventures to think it was introduced by the Kiwai (lower Fly river) police who were employed there in the early days.

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dark places under fallen tree trunks. The eel is a heavy-bodied creature with a blade-like tail and fierce jaws. When a number of them have been discovered the village may turn out in force. The younger men will dive and endeavour to dislodge the eels with sticks and spears, while the others, some upstream and some down, take their stand on convenient rocks and wait with poised fishing-spears to catch the eel as it makes a dart for freedom. If the efforts of the divers (who perform remarkable feats of endurance under water, and use their spears at no small risk to one another's legs) prove unavailing, they will have recourse to more insidious methods. The *poso*, a hollow log, some 6 feet long and 9 inches in diameter, open at either end, and furnished with a small window or peep-hole, 2 orches 3 in square, half-way down its length, is brought into use. Two divers will take this down and secure it under water near the hole where the eel is hiding.

The harrassed creature being now left alone and seeing a dark narrow hole—a retreat after its own heart—slips into the *poso* and rests secure until one of the young men diving again discovers its presence by means of the peep-hole. Then two men will go down, block each open end of the log with leaves and bring it to the surface, where the eel is ejected and killed.

Fishing-spears. Any spear will serve on emergency for a fishing-spear, but nowadays it is frequently furnished with a point of iron wire. The fishing-spear proper, however (*bosau* or *saita*), which I have seen among the Bush People, has two prongs of palm wood bound on to a long light shaft. In some of the coastal villages is found a long leister or spear (*segi*) furnished with perhaps ten prongs of hard-wood bound on to a light shaft about seven feet long.

Line Fishing. Line fishing is of little practical consequence. The line itself is of pandanus or banana fibre, plain or twisted. Two kinds of hooks may be described. The first of them is hardly more than a toy. The leaf of the pandanus is edged with minute oblique thorns or prickles, and a small boy will attach to his line a little section of this leaf which acts as bait or lure and, by virtue of its little thorns, as hook also.

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227 In the more usual method the hook is made of sago thorns or those of the plant called *sinegi* (apparently a kind of palm). The line is first threaded through an earthworm by means of a thin sharp sliver. Then three thorns (about 1 inch long) are bound together by means of the line itself and thrust into the worm so that the points project upwards, and thus

FIG. 12. Worm Bait and Hook.

constitute a hook. Line fishing is done by hand and the bait is allowed to dangle in the water.

226 *Poisoning.* The last, but not the least important, of fishing methods is that of poisoning, which is practised by all tribes in the inland creeks and pools. The poison is usually [278] obtained from the vine *Anisi* (*Kanesi*, *Ainsi*), a variety of derris; though certain other poisonous plants with the native names *Ondoto*, *Pogera*, and *Imanya* are used, as well as the recently introduced chilli. Water is bailed out of the pool or sometimes run off by means of a race or gutter, and when it is sufficiently shallow the root of the *Anisi* is pounded on a log. It exudes a highly poisonous milky fluid which permeates the water and brings the fish stupefied to the surface.

Sago Making

252 Among the River People sago is a never-failing food 262 supply, for on the lower reaches of the rivers large tracts of swamps are, I believe, not even explored by the natives, and their resources are but lightly tapped. Inland, where it [423] is comparatively rare, trees are definitely owned and husbanded. Sago, however, is not a favourite food with the Orokaiva, and it is for the most part when his taro gives out that he resorts to it; and since this is likely to be in the midst of a partial drought, when the swamps themselves may have

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133 illuminated to its depths by a broad shaft of sunshine, no more charming stream could be imagined than the upper Opi in dry weather. But if overnight the thunder has been very loud in the hills, the next morning may see the Opi a brown swirling flood, bearing along uprooted trees and piling them one upon another against every obstacle. It will soon overflow its deep banks, and the surrounding bush is submerged and impassable. One may be astonished, passing along a dry track some few days after such a flood, to find a raft or canoe left high and dry among the trees, or to see, head-high on the trunks and leaves, traces of mud left by the last inundation.

The water will subside rapidly with very little damage done. The occasional flood is rather welcomed than feared, for it is the hunter's opportunity. The small [224] game of the forest—rats, hedgehogs, the little marsupial called *Aisi*—are driven from their shelters and are easy prey for the native dogs. There are shallow depressions and hollows which in flood-time become water-courses, [226] and in these men and women are using their scoop-nets or setting their cage-like traps for the insignificant fish which are making their way back to the river with the falling water. Last and least there are the frogs who 'come down from the trees' in the flood-time, to be finally caught in the hands of the women. Sometimes the flood does some damage in the garden; but the water rises and falls so quickly and withal so steadily that it does little actual violence, and the taro seems quite able to survive a submergence. On the whole we are prone to over-estimate the ill effects of the flood in this district.

132 A far more serious affliction is the occasional drought. 262 After a long spell of fine weather the garden ground becomes dry and hard; the taro leaves droop and the young shoots die off. Even the swamps subside and sago-making is made difficult by lack of water. The hunting of small game and the fishing in creeks are hindered. The result of all this may be a real scarcity. To eke out their supplies the people will have recourse to fern fronds,

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ing is hampered to any extent in these localities. Owing to natural drainage the flood-waters subside quietly and fairly rapidly, and, as I have said before, the flood as a rule does little harm and is not regarded very seriously by the natives.

It has been pointed out to me that one of the principal difficulties in the drainage of the plains is the tendency for smaller streams to pile up a mass of drift-wood, so as eventually to block their own progress. In the majority of cases this drift-wood seems to have been brought down by floods, but it may be that the case is rendered worse by the natives' habit of throwing felled timber into a convenient river instead of firing it. At any rate the effect is sometimes to cause local inundations, to deflect streams, and to create sour stagnant back-waters.

The native knows well enough the principle of draining, though he has no need to use it for horticulture. In the creek fishing of the inland peoples draining is constantly practised in order to make the water shallow enough for the use of 'New Guinea Dynamite' and scoop-nets. The water is commonly bailed out with sago-branch scoops, but one may also see long gutters (*andere*), elaborate undertakings when we consider that the implements for their construction are a spatulate stick and a knife.

The small engineering feats of the fisherman might be adapted to irrigation as well as drainage, though, I believe, the idea has never suggested itself to the Orokaiva. He knows how to build a rudimentary dam and how to construct a race, but the latter is a loop rejoining the stream and has never been turned into an irrigation channel. The drought, as was observed before, may sometimes be serious, and some simple kind of irrigation would be a blessing to the native at the height of the South-East season. The thought of carrying water is for obvious reasons abhorrent to him; he would rather go hungry. What he actually does is to plant out the *bere* or offsets of his taro in the damp swampy places and so

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However, it is possible that the magic-maker, particularly the sorcerer, may sometimes succeed in bringing about the result he aims at. This might happen in either of two ways—directly, by the use of really harmful substances, or indirectly, by suggestion. If he use any harmful substance which has a demonstrable effect on the victim, it may fairly be argued that from our point of view he has abandoned the role of sorcerer for that of poisoner; but we may proceed to discuss this aspect even if by strict definition it should be excluded from the subject.

It is often maintained that natives hold the secret of many genuine poisons, and sometimes that the sorcerer is an out-and-out poisoner. The principal drawback to this view is that those who hold it are commonly unable to produce or identify the poisons which the sorcerer is supposed to use. The same is true of those abortifacient and contraceptive drugs which in the opinion of some observers *must* belong to a native pharmacology which is kept strictly secret from the prying European. One would be disposed to place some credence in this latter opinion if only its exponents could bring to light one really efficacious example. With regard to the poisons which are supposed to be used in sorcery one is tempted to be almost equally sceptical.

There is little doubt that the bush could furnish a number of vegetable poisons of a more or less dangerous nature, and no doubt that the native knows how to avoid some kinds of food which are injurious. But if we are to suppose that any of these substances are used in poisoning it will be necessary to assume that they are of a sufficiently deadly character to be effective in small and unnoticeable quantity. One may mention several of the better-known products which are recognized as poisons by the Orokaiva. First and foremost there is the vine *Asisi* (which belongs to the genus *Derris*), known as 'New Guinea Dynamite' because it is used for killing or stunning fish just as real dynamite is sometimes used by those who care little for the law of the land and less for the ethics of angling.